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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,102	07/22/2003	Pedro M. Buarque De Macedo	50699/11	8891

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EXAMINER	
SPAHN, GAY	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/625,102	BUARQUE DE MACEDO, PEDRO M.	
	Examiner	Art Unit	
	Gay Ann Spahn	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *6-12,15-22,28,32-36 and 38-41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,13,14,23-27,29-31 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *22 July 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the species of Figure 1 and the species of the tension bolt, in the reply filed on 18 March 2005 is acknowledged.

Applicant's traversal of the election of species requirement with respect to the species of prestressed assemblies is on the grounds that Fig. 1, Fig. 2, Figs. 3A and 3B, Figs. 4A and 4B, Figs. 5A and 5B, and Fig. 6 are not patentably distinct species. This is not found persuasive because the different embodiments of the prestressed assemblies (10 in Fig. 1; 10A in Fig. 2; 50 in Figs. 3A and 3B; 60 in Figs. 4A and 4B; 70 in Figs. 5A and 5B; and 80 in Fig. 6) have different structural configurations as follows:

Fig. 1 shows a structural building element or member in the form of a prestressed assembly (1) comprised of a single prestressed foam glass tile (12) which has a steel piece (28, 28) attached to opposite ends of the prestressed foam glass tile (12), each of the two steel pieces (28, 28) being located adjacent to and in contact with a steel beam (26, 26), which two steel beams (26, 26) are held in contact with the steel pieces (28, 28) via an arrangement of two tension bolts (18, 18) having bolt heads (24, 24) and two nuts (22, 22) wherein the two bolts (18, 18) are external to the prestressed foam glass tile (12);

Fig. 2 shows a structural building element or member in the form of a prestressed assembly (10A) comprised of three stacked prestressed

foam glass tiles (12A, 12B, 12C) wherein each of the two outermost prestressed foam glass tiles (12A, 12C) has a steel piece (28, 28) attached to its outer end (32, 23), the two steel pieces (28, 28) each being located adjacent to and in contact with a steel beam (26, 26), each of the two steel beams (26, 26) being held in contact with one of the two steel pieces (28, 28) via an arrangement of two tension bolts (18, 18) having bolt heads (24, 24) and two nuts (22, 22) wherein the two bolts (18, 18) are external to the three prestressed foam glass tiles (12A, 12B, 12C);

Figs. 3A and 3B show a structural building element or member in the form of a prestressed assembly (50) comprised of two stacked prestressed foam glass tiles (52A, 52B) wherein the outermost surface of each of the two prestressed foam glass tiles (52A, 52B) is located adjacent to and in contact with a steel beam (56, 56), each of the two steel beams (56, 56) being held in contact with one of the two prestressed foam glass tiles (52A, 52B) via an arrangement of two tension bolts (54, 54) having bolt heads (unnumbered) and two nuts (unnumbered) wherein the two bolts (54, 54) are internal of the two prestressed foam glass tiles (52A, 52B);

Figs. 4A and 4B show a structural building element or member in the form of a prestressed assembly (60) comprised of four prestressed foam glass tiles (62A, 62B, 62C, 62D) stacked in columns of two, wherein the outermost surface of each of the four prestressed foam glass tiles

(62A, 62B, 62C, 62D) is located adjacent to and in contact with a steel beam (66, 66), each of the two steel beams (66, 66) being held in contact with the outermost surface of two of the four prestressed foam glass tiles (62A, 62B, 62C, 62D) via an arrangement of two tension bolts (64A, 64B) having bolt heads (unnumbered) and two nuts (unnumbered) wherein the two bolts (64A, 64B) are external to the prestressed foam glass tiles (62A, 62B, 62C, 62D);

Figs. 5A and 5B show a structural building element or member in the form of a prestressed assembly (70) comprised of eight prestressed foam glass tiles (72A, 72B, 72C, 72D, 72E, 72F, 72G (not shown), 72H (not shown)) which are stacked in columns of two and rows of two, wherein the outermost surface of each of the prestressed foam glass tiles (72A, 72B, 72C, 72D, 72E, 72F, 72G, 72H) is located adjacent to and in contact with a steel beam (unnumbered), each of the four steel beams (unnumbered) being held in contact with an outermost surface of four of the eight prestressed foam glass tiles (72A, 72B, 72C, 72D, 72E, 72F, 72G, 72H) via an arrangement of three tension bolts (unnumbered) having bolt heads (unnumbered) and three nuts (unnumbered) wherein the bolts (unnumbered) are external to the prestressed foam glass tiles (72A, 72B, 72C, 72D, 72E, 72F, 72G, 72H); and

Fig. 6 shows a structural building element or member in the form of a prestressed assembly (80) comprised of four stacked prestressed foam

glass tiles (82A, 82B, 82C, 82D) wherein each of the two outermost prestressed foam glass tiles (82A, 82D) has a steel piece (88, 88) attached to its outer end, the two steel pieces (88, 88) each being located adjacent to and in contact with a steel beam (90, 90), each of the two steel beams (90, 90) being held in contact with one of the two steel pieces (28, 28) on its inner side surface and being held in contact with a floor (86A, 86B) of a building on its outer side surface via a tension bolt (84) arrangement wherein the tension bolt (84) is internal of the four prestressed foam glass tiles (82A, 82B, 82C, 82D), the steel pieces (88, 88), the steel beams (90, 90) and the floors (86A, 86B) of the building.

Further, applicant has failed to submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that the species are obvious variants.

Applicant's traversal of the election of species requirement with respect to the species of tension members is on the grounds that the bolt(s), wire(s), carbon fiber(s), standard/compact seven-wire prestressing strand(s), rod(s)/bar(s), angle iron(s), and plate(s) are not patentably distinct species. This is not found persuasive because the different embodiments of the tension members have different structural configurations and have a recognized separate status in the building construction art.

Further, applicant has failed to submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that the species are obvious variants.

Therefore, both of the election of species requirement with respect to the species or prestressed assemblies and species of tension members are still deemed proper and are made FINAL.

The Applicant has provisionally elected the species of Fig. 1 and the species of tension bolt(s) and has listed claims 1-5,13, 14, 23-27, 29-31, 37, and 41 as readable on the elected species. However, the examiner does not agree that independent claim 41 is readable on the elected species. Claim 41 recites "A prestressed assembly for use in a building having weight comprising at least one prestressed foam glass tiles, having a prestressed compression of 1000 psi or greater, wherein said tiles are under compression caused by a portion of the weight of the building." Claim 41 clearly reads on the species of Fig. 6 which shows upper and lower floors of a building (86A and 86B) and which on page 13, lines 3-5, of the specification, is described as "a side view of another embodiment of the present invention where multiple foam glass tiles are under compression between two floors in a building."

Therefore, the examiner is withdrawing claims 6-12, 15-22, 28, 32-36, and 38-41 from further consideration as being drawn to non-elected species of the present invention. Independent claims 6-12, 15-22, 28, 32-36, and 38-40 will be rejoined if and

when an independent claim, on which the dependent claims depend and which is generic to all of the species, is found allowable. However, claim 41 being a non-elected and non-generic claim will not be rejoined.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 22 July 2003 is in compliance with the provisions of 37 CFR 1.97, except for the two submissions listed as Cite No. 28 (i.e., article entitled "Mission Area: Structural Blast Mitigation") and Cite No. 30 (i.e., article by Edward G. Nawy entitled "Prestressed Concrete: A Fundamental Approach) in the section entitled "Other Prior Art - Non-Patent Literature Documents." The examiner has not considered the submission listed as Cite No. 28 because no date of publication has been listed on the Information Disclosure Statement (IDS) and examiners are not supposed to consider submissions that do not list a date. The examiner has not considered the submission listed as Cite No. 30 because a copy of the reference did not accompany the filing of the Information Disclosure Statement (IDS). Accordingly, the examiner has considered the information disclosure statement, with the exception of Cite Nos. 28 and 30.

Drawings

The drawings are objected to because:

(1) the number "244103.1" at the bottom of Fig. 3A and Fig. 5A should be deleted;

(2) Figs. 3B, 4B, and 5B are noted to be cross-sectional views (see page 12, lines 15 and 19 and page 13, line 1), but no line 3B-3B, line 4B-4B, and line 5b-5B, respectively, are shown in Figs. 3A, 4A, and 5A, respectively, to show where the cross-sections are coming from as is required (see 37 CFR § 1.84(h)(3)).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference numeral "88" shown in Fig. 6 does not appear to be described in

the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

(1) page 1, last line, the word "emphasize" should be --emphasized-- for proper grammar;

(2) page 4, line 2, it is believed the word "exerted" should be --exposed--, the word "asserted" should be --exerted--, and the second occurrence of the word "to" should be --of--;

(3) page 12, line 15, the words --taken along line 3B-3B-- should be inserted between the word "view" and the words "of FIG. 3A" and the words "along the middle of tile 52A" should be deleted;

(4) page 12, lines 19-20, the words --taken along line 4B-4B-- should be inserted between the word "view" and the words "of FIG. 4A" and the words "along the middle of tiles 62A and 62C" should be deleted;

(5) page 13, lines 1-2, the words --taken along line 5B-5B-- should be inserted between the word "view" and the words "of FIG. 5A" and the words "along the middle of tiles 62A and 62C" should be deleted;

(6) page 18, line 13, between the word "approximately" and the word "center", insert the words --at the--;

(7) page 18, line 15, the word "grounded" should be changed to --ground--;

(8) page 19, line 3, the word "tighten" should be changed to --tightened--;

(9) page 19, line 13, the word "are" should be changed to --is--;

(10) page 27, line 2 of paragraph [0050], the number "100" should have units such as --grams--;

(11) page 30, last line, change "unstressed 92" to --unstressed (see curve 92)-- since reference numeral 92 was called a curve in paragraph no. [0055] and the name for reference numerals should remain constant; and

(12) page 31, line 1, change "prestressed 94" to --prestressed (see curve 94)-- since reference numeral 94 was called a curve in paragraph no. [0055] and the name for reference numerals should remain constant.

Appropriate correction is required.

The use of the trademark "Foam Glas®" (page 3, lines 2 and 5 of paragraph [0005], and page 4, line 1) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5, 13, 14, 23-27, 29-31, and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant disclosure does not appear clear and complete as to how the prestressed foam glass tile has or is able to obtain a prestress compression of 1000 psi or greater and particularly 1000 psi to 5000 psi. The instant disclosure purports to establish a prestressed foam glass tile having a prestress compression of 1000 psi or greater and particularly 1000 psi to 5000 psi, but does not provide a teaching beyond that already disclosed within the glass industry.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 13, 14, 23-27, 29-31, and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The invention defined by claims 1-5, 13, 14, 23-27, 29-31, and 37 is not understood since the instant disclosure does not appear clear and complete as to how the prestressed foam glass tile has or is able to obtain a prestress compression of 1000 psi or greater and particularly 1000 psi to 5000 psi. The instant disclosure purports to establish a prestressed foam glass tile having a prestress compression of 1000 psi or greater and particularly 1000 psi to 5000 psi, but does not provide a teaching beyond that already disclosed within the glass industry.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 23-27, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grady, II (U.S. Patent No. 4,324,037) in view of either Zeinetz

(U.S. Patent No. 3,292,316) or Lagendijk (U.S. Patent No. 4,450,656) when considering either of Williams et al. (U.S. Patent No. 4,124,365) or Blaha (U.S. Patent No. 3,056,184).

Grady, II discloses, Figs. 7 and 8, an arrangement, (column), of tile units 82 held together as by tension bolts 90. At least one tile is placed between at least two metal beams 84 and held in compression by the tension bolts 90. Grady, II does not present the tiles 82 as made of a foamed glass.

However, each of Zeinetz and Lagendijk teach utilization of foamed glass tiles or blocks within a tensioned structural arrangement. Fig. 11 of Zeinetz, for example, shows tension bolts 36, 39 holding foamed glass tiles, col. 4, lines 5-9, in place while Figs. 1, 2, and 6 of Lagendijk shows tension members 33, 34, 36, 45, etc. outside of the foamed glass units, holding the foamed glass units in place, col. 3, lines 30-60 and col. 4, lines 34-37.

And, each of Williams et al., as at col. 1, lines 35-43, and Blaha, as at col. 3, lines 24-35, teach utilization of foamed glass tiles or blocks possessing a compressive strength in excess of 1200 psi with Williams et al. teaching a compressive strength on the order of 5,000 to 8,000 psi.

Therefore, to have provided the structural column of Grady, II with foamed glass tile units possessing a compressive strength of from 1,000 to 5,000 psi in place of the clay or cement units, thus realizing the advantages of such foamed glass units within a structural arrangement, would have been obvious to one having ordinary skill in the art

at the time the invention was made as taught by either of Zeinetz and Lagendijk when considering either of Williams et al. and Blaha, (**claims 1-5, 14, 23-27, 29, and 31**).

As to claims 13 and 23, to have placed the tension bolts 90 under a tension so as to prestress the foamed glass tile units of the resulting Grady, II assembly, thus forming a more strengthened arrangement, would have been obvious to one having ordinary skill in the art at the time the invention was made.

As to claims 23-27, the resulting Grady, II assembly discloses a prestressed assembly for use in buildings or other structures comprising: at least one prestressed foam glass tiles, having a prestressed compression of 1000 to 5,000 psi or greater; at least two metal beams 84; and one or more tension members 90, wherein said at least one foam glass tiles are placed between said at least two metal beams and held in compression of at least 1,000 to 5,000 psi by said one or more tension members.

As to claims 14 and 31, the resulting Grady, II assembly discloses a prestressed assembly having tension members comprised of tension bolts 90.

As to claim 30, to have formed the metal, force transmitting beams 84 of steel, thus realizing the advantages of such old and well known construction material, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made.

Claims 1-5, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis (U.S. Patent No. 3,430,397) in view of either Zeinetz (U.S. Patent No. 3,292,316) or Lagendijk (U.S. Patent No. 4,450,656) when considering

either of Williams et al. (U.S. Patent No. 4,124,365) or Blaha (U.S. Patent No. 3,056,184).

Ellis discloses, Fig. 2, an arrangement, (column), of tile units 12 held together as by tension members 30 or 26/28/30. At least one tile is placed and held in compression by the tension bolts 30 or 26/28/30. Ellis does not present the tile units 12 as made of a foamed glass.

However, each of Zeinetz and Lagendijk teach utilization of foamed glass tiles or blocks within a tensioned structural arrangement. Fig. 11 of Zeinetz, for example, shows tension bolts 36, 39 holding foamed glass tiles, col. 4, lines 5-9, in place while Figs. 1, 2, and 6 of Lagendijk shows tension members 33, 34, 36, 45, etc. outside of the foamed glass units, holding the foamed glass units in place, col. 3, lines 30-60 and col. 4, lines 34-37.

And, each of Williams et al., as at col. 1, lines 35-43, and Blaha, as at col. 3, lines 24-35, teach utilization of foamed glass tiles or blocks possessing a compressive strength in excess of 1200 psi with Williams et al. teaching a compressive strength on the order of 5,000 to 8,000 psi.

Therefore, to have provided the structural arrangement, (column) of Grady, II with foamed glass tile units possessing a compressive strength of from 1,000 to 5,000 psi in place of the clay or cement units, thus realizing the advantages of such foamed glass units within a structural arrangement, would have been obvious to one having ordinary skill in the art at the time the invention was made as taught by either of Zeinetz

and Lagendijk when considering either of Williams et al. and Blaha, (**claims 1-5 and 14**).

As to claim 13 to have placed the tension bolts 30, or 26/28/30, under a tension so as to prestress the foamed glass tile units of the resulting Ellis assembly, thus forming a more strengthened arrangement, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made.

As to claim 14, Ellis discloses the tension members may comprise any suitable tension-applying device. Therefore, to have provided tension bolts in place of the straps shown by Ellis would have been a further obvious expedient to one having ordinary skill in the art at the time the invention was made.

Claims 23-27, 29-31, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis (U.S. Patent No. 3,430,397) in view of either Zeinetz (U.S. Patent No. 3,292,316) or Lagendijk (U.S. Patent No. 4,450,656) when considering either of Williams et al. (U.S. Patent No. 4,124,365) or Blaha (U.S. Patent No. 3,056,184) as applied to claims 1-5, 13, and 14 above, and further in view of Grady, II.

As to claims 23-27 and 29, the resulting Ellis assembly discloses a prestressed assembly for use in buildings or other structures comprising: a plurality of prestressed foam glass tiles, having a prestressed compression of 1000 to 5,000 psi or greater; a metal beam 18/20, at the top thereof, and one or more tension members 30, or 26/28/30, with the foam glass tiles are placed between said at least two metal beams

and held in compression of at least 1,000 to 5,000 psi by the tension members. The resulting Ellis assembly does not disclose the tiles between two metal, force-transmitting beams.

However, Grady, II teaches applying metal force transmitting beams on either end of a structural arrangement so as to better distribute forces when tension is applied to the respective tension members 90.

Therefore, to have provided the resulting Ellis assembly with a second or lower metal force transmitting beam to cooperate with the upper force transmitting beam, thus effecting a more uniform distribution of forces when tension is applied to the respective tension members 30, or 26/28/30, would have been obvious to one having ordinary skill in the art at the time the invention was made as taught by Grady, II. To have placed the tension bolts 30, or 26/28/30, under a tension so as to prestress the foamed glass tile units of the resulting Ellis assembly, thus forming a more strengthened arrangement, would have constituted a further obvious expedient to one having ordinary skill in the art at the time the invention was made.

As to claim 30, to have formed the resulting upper and lower metal, force transmitting beams 18/20 of steel, thus realizing the advantages of such old and well known construction material, would have constituted a further obvious to one having ordinary skill in the art at the time the invention was made.

As to claim 31, Ellis discloses the tension members may comprise any suitable tension-applying device. Therefore, to have provided tension bolts in place of the straps

shown by Ellis would have been a further obvious expedient to one having ordinary skill in the art at the time the invention was made.

As to claim 37, the resulting Ellis assembly discloses that the tension members are not within the foam glass tiles.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 4,430,108 to Hojaji et al. discloses a method of making foam glass from diatomaceous earth and fly ash. U.S. Patent No. 4,332,908 to Vieli discloses foamed granular glass. U.S. Patent No. 4,178,162 to Wustefeld discloses a method for the manufacture of foamed glass. U.S. Patent No. 3,321,414 to Vieli discloses cellular glass and a method of making same. U.S. Patent No. 3,325,341 to Shannon discloses a method of producing strong foamed glass bodies and structure produced thereby. U.S. Patent No. 2,620,597 to Ford discloses a method of making cellular glass. U.S. Patent Application Publication No. 2004/0071960 to Weber et al. discloses a glass body with improved strength. U.S. Patent No. 5,476,692 to Ellis et al. discloses a method of strengthening glass. U.S. Patent No. 4,903,446 to Richards et al. discloses a prestressed plastic foam structural member. U.S. Patent No. 4,628,652 to Wefels discloses a glass brick. U.S. Patent No. 4,058,943 to Sturgill discloses a glass block panel. U.S. Patent No. 2,281,524 to Meyers discloses glass building blocks. U.S. Patent Application Publication No. 2001/0018836 to Schmidt et al. discloses a process for the production of prestressed or bent glass elements. U.S. Patent No. 4,259,118 to

Sack discloses thermally high pre-stressable glass with high hot stressing factors. U.S. Patent No. 3,186,816 to Wartenberg discloses a method of prestressing glass. U.S. Patent No. 3,124,637 to Heitzer discloses an apparatus for examining prestressed glass. U.S. Patent No. 2,991,591 to Gabor et al. discloses a method of prestressing glass articles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gay Ann Spahn whose telephone number is (571)-272-7731. The examiner can normally be reached on Monday through Thursday, 8:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on (571)-272-7049. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. However, this fax phone number is being phased out and will no longer be in service after September 15, 2005. The new fax phone number beginning July 15, 2005 will be (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GAS

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